

What is claimed is:

1. An apparatus for dehydrating and consolidating an optical fiber preform, comprising:

a first muffle tube,

5 a second muffle tube which is arranged coaxially around said first muffle tube such that an intermediate room is formed therebetween,

means for supplying gas to said intermediate room;

means for exhausting gas from said intermediate room; and

a furnace body surrounding said first and second muffle.

10 2. An apparatus for dehydrating and consolidating an optical fiber preform according to claim 1, wherein said first muffle tube and said second muffle tube are formed of a plurality of muffle pieces piled up.

15 3. An apparatus for dehydrating and consolidating an optical fiber preform according to claim 1, wherein said first muffle tube and said second muffle tube are made of carbon.

4. An apparatus for dehydrating and consolidating an optical fiber preform according to claim 1, wherein the whole circumference of said first muffle tube is surrounded by said second muffle tube.

20 5. A method of dehydrating and consolidating an optical fiber preform, comprising:

arranging said optical fiber preform in a dehydration and consolidation furnace having a first muffle tube and a second muffle tube which are arranged coaxially in a furnace body,

maintaining the pressure of an intermediate room formed between said first muffle tube and said second muffle tubes to be lower than both a pressure in said first muffle tube and a pressure outside said second muffle tube; and

performing a gas supply and exhaust of said intermediate room
5 independent of the gas supply and exhaust of the first muffle tube and a furnace body room.

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